

IMPACT OF NATIONAL INFLUENZA VACCINE CAMPAIGN ON RESPIRATORY ILLNESS IN THAILAND, 2010-2011

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Abstract. The National Influenza Vaccine Campaign in Thailand was implemented in 2009 after the worldwide 2009 pandemic influenza (H1N1) outbreak. While the campaign costs almost USD 2 million yearly, the impact of the program on respiratory illness incidence is still unclear. This study determined the effectiveness of influenza vaccine on outpatient visit and hospitalization related to influenza-like illness (ILI), influenza, pneumonia from all causes and pneumonia due to influenza among high risk population in Thailand. This retrospective cohort study compared the incidence rate of the abovementioned illnesses among vaccinated and non-vaccinated high risk population. Vaccination status was defined according to the influenza vaccination registration in 2010 and the incidence rates of the illnesses of interest were determined using the national administrative data of the National Health Security Office during 2010-2011 and reported as incidence rate ratio (IRR), 95% confidence interval (CI) and vaccine effectiveness. In 2010, of the 2,244,594 high risk individuals according to the influenza vaccination registration, 61.05% were unvaccinated and the remaining were. Influenza vaccine effectiveness in preventing ILI was 56% (IRR = 0.44; 95% CI: 0.44-0.45), but there is no significant reduction of outpatient visits related to influenza infection, pneumonia from all causes and pneumonia due to influenza infection. Influenza vaccine effectiveness in preventing hospitalization related to ILI, pneumonia from all causes and pneumonia due to influenza infection were 25% (IRR = 0.75; 95% CI: 0.71-0.78), 38% (IRR = 0.62; 95% CI: 0.54-0.72) and 32% (IRR = 0.68; 95% CI: 0.53-0.86), respectively. Interestingly, there is no significant reduction of hospitalization related to influenza infection; however, among children between 6 months and 2 years of age vaccine effectiveness in preventing hospitalization due to influenza was 60% (IRR = 0.40; 95% CI: 0.13-0.96). Influenza vaccine effectiveness in preventing hospitalization due to pneumonia, ILI and pneumonia related to influenza in high risk population were 25.0%, 38.0% and 32.0%, respectively; however, children of 6 months to 2 years of age demonstrated 60% vaccine effectiveness in preventing influenza hospitalization.

Keywords: hospitalization, influenza, vaccine effectiveness, Thailand

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